



## IGF-I Human, E. coli Recombinant Protein

### Product Data Sheet

Cat. No.:	A32160100	A32160500	A32161000
Size:	100 µg	500 µg	1 mg

### Description

Our bioactive *IGF-I Human, E. coli Recombinant Protein* is a single, non-glycosylated, polypeptide chain that contains 70 amino acids and has a 7.6 kDa molecular mass. IGF-1 is purified by proprietary chromatographic techniques.

### Summary

IGF-1 (Insulin-like growth factor-1) is a major hormonal mediator of statural growth. Under regular circumstances, GH (growth hormone) binds to its receptor in the liver, and other tissues, and stimulates the synthesis/secretion of IGF-1. In target tissues, the Type 1 IGF receptor, that is homologous to the insulin receptor, is activated by IGF-1, leading to intracellular signaling which stimulates multiple processes leading to statural growth. IGF-1 metabolic actions are partly directed at stimulating the uptake of glucose, fatty acids, and amino acids so that metabolism supports growing tissues.

IGF-I is commonly used as a media supplement in human pluripotent stem cell culture and is needed for cell growth in the absence of insulin. IGF-I promotes the *in vitro* cell proliferation of many different types of cells, such as mesenchymal stem cells.

### Other Names

IGF-I, Insulin-like growth factor I, Insulin-like growth factor 1, IGF-I, IGFI, IGF-1, IGF1, Mechano growth factor (MGF), Somatomedin-C, IBP1, UniProtKB# P05019

### Amino Acid Sequence

GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSRRAPQ TGIVDECCFR SCDLRRLEMY  
CAPLKPAKSA.

### Source

*E. coli*

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## Formulation

Sterile filtered white lyophilized (freeze-dried) powder. The protein was lyophilized from a concentrated solution in PBS, pH 7.0.

## Purity

Greater than 97.0% as determined by:

1. Analysis by RP-HPLC.
2. Analysis by SDS-PAGE.

## Biological Activity

The biological activity was determined by the cell proliferation assay using serum free human MCF-7 cells in <2 ng/ml, corresponding to a Specific Activity of > 5.0 x 10<sup>5</sup> IU/mg.

## Reconstitution

It is recommended to reconstitute the lyophilized IGF-I in sterile 18M-cm H<sub>2</sub>O at a concentration of at least 100 µg/ml, which can then be further diluted to other aqueous solutions.

## Shipping

Ships at ambient temperature. Upon receipt, store the product at the temperature recommended below.

## Storage/Expiration

Lyophilized IGF-I, although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution, IGF-I should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% [HSA](#) or [BSA](#)). **Please prevent freeze-thaw cycles.**

## Usage

This product is intended for **Laboratory Research Use Only**. Not for use in diagnostic or therapeutic procedures. This product may not be used as a pharmaceutical or veterinary drug, agricultural product, or food additive.

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